Avista Corp.
1411 East Mission P.O. Box 3727
Spokane, Washington 99220-0500
Telephone 509-489-0500
Toll Free 800-727-9170

Received
Records Management
Sep 26, 2024

September 26, 2024

Mr. Jeff Killip
Executive Director and Secretary
Washington Utilities and Transportation Commission
621 Woodland Square Loop SE
Lacey, WA 98503

RE: Docket UE-160799 - Avista's Comments

Dear Mr. Killip,

Avista Corporation, dba Avista Utilities (Avista or the Company), submits the following comments in accordance with the Washington Utilities and Transportation Commission's (Commission) Notice of Opportunity to File Written Comments in Docket UE-160799 on August 28, 2024, regarding the Commission-led workshop series to review and potentially revise the 2017 Policy and Interpretive Statement concerning Commission regulation of electric vehicle (EV) charging services.

Avista has consulted with its investor-owned utility peers at Puget Sound Energy (PSE) and PacifiCorp on the issues raised by this policy review. The information and highlights provided in the responses below are in general agreement and support of the shared perspectives and comments made by PSE and PacificCorp, aligned with our common purpose and commitment to strongly support Transportation Electrification (TE) for the benefit of all customers in our respective service territories.

1. **What types of ratemaking tools should the Commission consider for EV charging infrastructure? For each option, please explain why such tools are appropriate:**
    a. **A system benefits charge for all customers that create a budget for utilities?**
    b. **Capital expenses for EV infrastructure recovered in base rates?**
    c. **Increased incentives for Multi-Unit Dwelling building owners or developers?**
    d. **A line extension allowance similar to that proposed in Oregon?**
    e. **An option not listed here (please describe both the preferred option and why it is preferred.)**

Response: TE and enabling utility programs benefit all customers over time, therefore rate-based cost recovery from all customers is most appropriate, as currently established.[1] Capital investments in charging infrastructure should be allowed to receive an incentive rate of return on equity of 2%, also as currently established, in order to help prioritize these investments in utility planning and budgeting.

Multi-unit Dwellings (MUDs) present a number of challenges to cost-effectively install and operate EVSE. These challenges may be mitigated with enhanced program incentives; however, in some cases the costs are exceptionally high even after the application of incentives. As an alternative or supportive policy, enhanced incentives for workplace charging should be considered, in terms of both capital investments and operational expenses. As convincingly demonstrated by the U.S. Dept of Energy in the early days of EV adoption,[2] workplace charging provides a number of powerful and substantial benefits simultaneously. Lower-income and other customers that reside in MUDs without reliable and convenient access to low-cost charging at home, can often fill this gap if their employer provides workplace charging at their commercial facility. This availability of charging while the vehicle is parked for extended periods can make or break an individual's decision to switch to an EV – in some cases even when charging is available at their home, and in cases where the commuting distance is relatively long. Workplace charging also provides an automatic load management benefit, as it generally results in substantially lower charging in the evenings which coincide with year-round on-peak demands of the electric grid. Finally, workplace charging provides a visible example of successful EV adoption by peer employees – encouraging dialogue, better education and positive awareness of the true costs and benefits, which powerfully catalyzes EV adoption.

Avista currently provides line extension options to customers adopting EVs consistent with its tariff Schedule 51. It is often beneficial for the customer to forego the line extension allowance initially offered and to recoup it within the prescribed 5-year time period, as higher utilization is realized and demonstrated loads can result in a higher allowance. However, in many cases the upfront allowance is preferred by the customer to mitigate upfront costs. Authorization for 100% line extension allowance could be warranted and beneficial in certain special cases, such as for qualifying Community-based Organizations and MUDs serving low-income customers. 100% line extension allowances for all instances of public charging installations are not prudent, as this does not encourage siting in the vicinity of existing utility power and can result in excessively high system costs borne by all customers.

Lastly, it may be appropriate to consider a tariff rider or tracker for Operations & Maintenance (O&M) expenses associated with demand response, smart charging programs, networking costs, fleet advisory services, and general maintenance expenses associated with owning and operating EV charging infrastructure. Avista has experienced constraints on its investments in EV charging infrastructure, load management and other support programs due to limited O&M budgets. Having a dedicated mechanism for recovering the aforementioned costs would incentivize the Company to further invest in TE.

[1] Satchwell, Andrew, et al. Quantifying the Financial Impacts of Electric Vehicles on Utility Ratepayers and Shareholders. Lawrence Berkeley National Laboratory (2023).
[2] See https://www.energy.gov/eere/vehicles/articles/workplace-charging-challenge-reports

2. **In a time of upward pressure on utility rates, how can the Commission balance the need for more proactive planning with transportation electrification infrastructure while sufficiently protecting ratepayers and mitigating risks? (i.e. overbuilding or unanticipated costs)**
   a. **Please provide any known resources or examples demonstrating your proposal.**

Response: In general, the clear need for substantially more charging infrastructure over many years makes the risk of underbuilding higher than the risks of overbuilding. Provided that utilities apply credible, detailed EV load forecasts combined with other load forecasts and DER impacts, it is prudent to build infrastructure in a reasonably proactive manner that does not materially affect customer rates. Even if loads do not materialize as expected in the nearer term, a solid load forecast assures that they will surface within a few years of the planning horizon. Otherwise, underbuilding ahead of expected demand will result in major delays of TE adoption and respective net benefits, especially in situations where substantial grid investments requiring several years lead time to accomplish are involved.

Load forecasting and utility system planning are challenging endeavors but may be confidently pursued with success. This is especially the case in residential neighborhoods where EV adoption will more gradually increase, and the utility can incrementally adapt with service transformer and eventually feeder and substation upgrades over many years. More uncertain and challenging is the proper timing of investments to enable medium- and heavy-duty (MHD) fleet electrification, which may be concentrated in a relatively smaller locale and in short order impose very large loads on the local distribution grid. There is currently a relatively low level of MHD electrification in Avista's service territory, which adds to the uncertainty in timing and magnitude of investments that will be needed in the future. This will be improved with robust efforts to engage fleet customers and build a bottom-up load forecast. In the meantime, regulatory proceedings on this topic in other states may be monitored, with the opportunity to apply lessons learned.

3. **At what point should Transportation Electrification programs be rate-based rather than customer specific tariff schedules?**
   a. **At what percentage of use (percent of time used for charging) do public chargers "break even" for EVSE owners?**
   b. **Does this percentage of use vary based on geographic location? If yes, please describe the variation and causes of variation by geographic location.**
   c. **Does this percentage of use vary for L1, L2, or DCFC? If so, please provide the percentages for each charging type, and explain the reason for the variation.**
   d. **Are there any other factors that contribute to differences in percentage of use?**

Response: As stated in response to the first question, TE and enabling utility programs benefit all customers over time, therefore rate-based cost recovery of capital investments is most appropriate as currently established. A reliable and consistent source of utility TE program funding for both capital investments and operating expenses can also provide a considerable benefit, resulting in predictable and systematic TE support from the utility in a given service territory. In this regard, a tariff rider or tracker mechanism, as mentioned above, or similar to PSE's Schedule 141 TEP Adjustment Rider, can provide this consistent funding source.

Avista utilizes a portfolio approach to charging infrastructure investments, with the goal of achieving strategic objectives across its service territory, including overall net benefits provided to all customers over time. Specific investment decisions are grounded on a systematic analysis of market needs and gaps as detailed in the TE Plan. Increased adoption resulting from a backbone of reliable charging infrastructure in a given service territory results in more beneficial, low-cost load elsewhere on the system, thus providing the net benefits to the general body of customers. This means that at certain strategic locations for example, a utility DCFC investment may be prudent and essential to support mass market adoption, even though operating expenses may be higher than user fee revenues at that isolated location for several years.

There are various references that can provide good estimates for both installation and operating costs, to facilitate break-even analysis for a variety of scenarios.[3,4] Much depends on EVSE reliability, as poor uptime will result in prohibitive operating costs that are very difficult to break-even with user fees, even in cases of high utilization – not to mention the indirect costs of customer dissatisfaction. EVSE reliability is complex topic with a variety of factors including the severity of weather and temperature variations, but most prominently the degree of quality hardware, software, monitoring and support services.

High utility demand charges are another source of operating costs that make operational break-even difficult, particularly for situations where low utilization occurs in the early stages of market adoption in a given region or location. For this reason, the implementation of innovative utility rates for DCFC and larger fleet and workplace L2 that mitigate demand charges is essential to break down 3rd party investment and grant funding barriers, e.g. as provided by Avista rate schedules 013 and 023.

4. **Some utilities across the country have implemented (or plan to implement) a flat-rate charging program for EVs. (i.e. For $35 per month, a customer can charge as much as they want during off-peak hours) Would a similar construct be viable in Washington?**
   a. **If so, what dollar amount would the utility need to recover for such a program to be economically feasible?**
   b. **Would this practice be equitable if a discounted flat-rate option was available for low-income EV customers? (i.e., low-income customers could pay $20 per month for unlimited off-peak charging, whereas other customers would pay $35 per month)**
   c. **For charging EVSEs with high intensity, but infrequent use, the utility may assess a demand charge which may be passed on to the charging provider and ultimately customers. Do third-party providers absorb significant costs for demand charges?**
   d. **If so, provide the percentage of all chargers subject to a demand charge detailed by utility owned chargers and third-party owned chargers.**

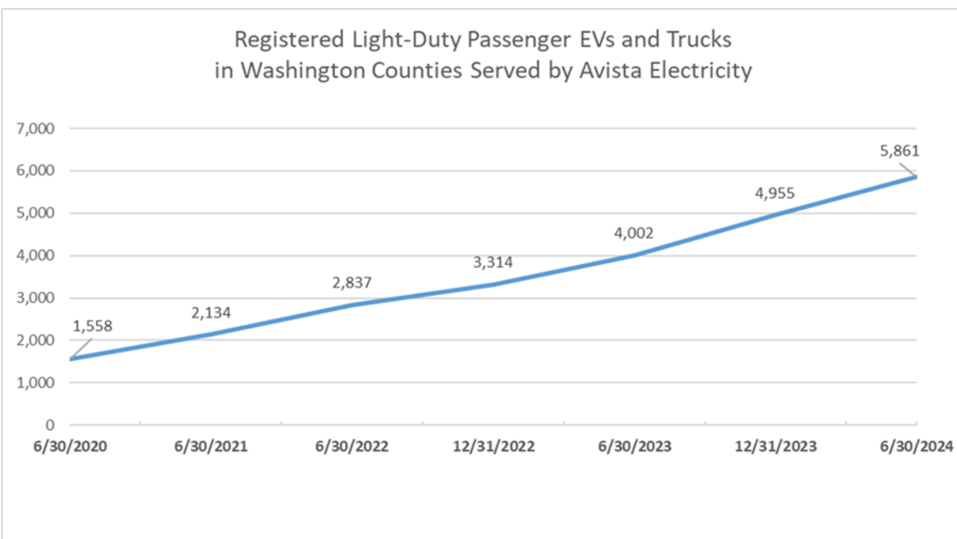
Response: An off-peak, flat-charge rate allowing for unlimited off-peak charging would be difficult and expensive to implement. In addition, the cost-benefit of such a customer offering is uncertain, particularly in Avista's service territory that is still in the early stages of EV adoption.

[3] Nichols, Michael. Estimating electric vehicle charging infrastructure costs across major U.S. metropolitan areas. The Internation Council on Clean Transportation (2019).
[4] EVI-FAST: Electric Vehicle Infrastructure – Financial Analysis Scenario Tool. National Renewable Energy Lab (2024). Accessible at: https://www.nrel.gov/transportation/evi-fast.html

A reasonable approach would be to monitor implementations of such a flat-rate offering outside of Washington State, verify acceptable cost-benefit results, and apply best practices and lessons learned at a future date, as appropriate.

5. **What data sources does your utility utilize when estimating EV ownership within your territory?**
   a. **How does your utility incorporate these datasets into your resource planning/distribution system planning/capital decision planning assumptions? Please include at least the following planning assumptions and how you determine them:**
      - **Number of EVs (broken down by LDV and MHD) in service territory by 2030, 2035, and 2040.**
      - **The number of chargers needed at each level (L1, L2, DCFC)**
      - **Distribution, transmission, and resource acquisition needs specifically attributed to EV load growth**
      - **Distribution of costs to ratepayers (all customer classes for all investments? Just EV customers? Both?)**
   b. **How do these datasets influence distribution system planning processes?**
   c. **What barriers has your utility identified that prevents widespread EV adoption within your territory?**

Response: Avista primarily utilizes the Washington State Department of Licensing (DOL) website and database to estimate light-duty EV ownership in our service territory, by county, and as detailed in our Annual Transportation Electrification (TE) Reports.[5] A current chart of light-duty EV adoption in counties served is as follows:

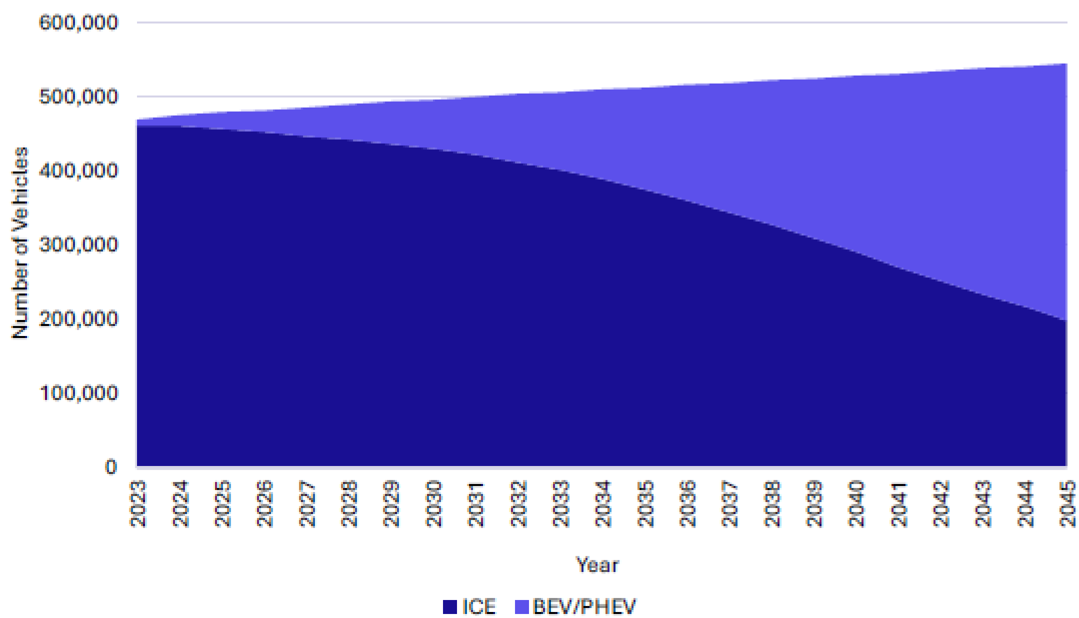


These figures are adjusted by the estimated 88% of customers in these counties that are served electricity by Avista. These estimates are beginning to be supplemented with EV customer data

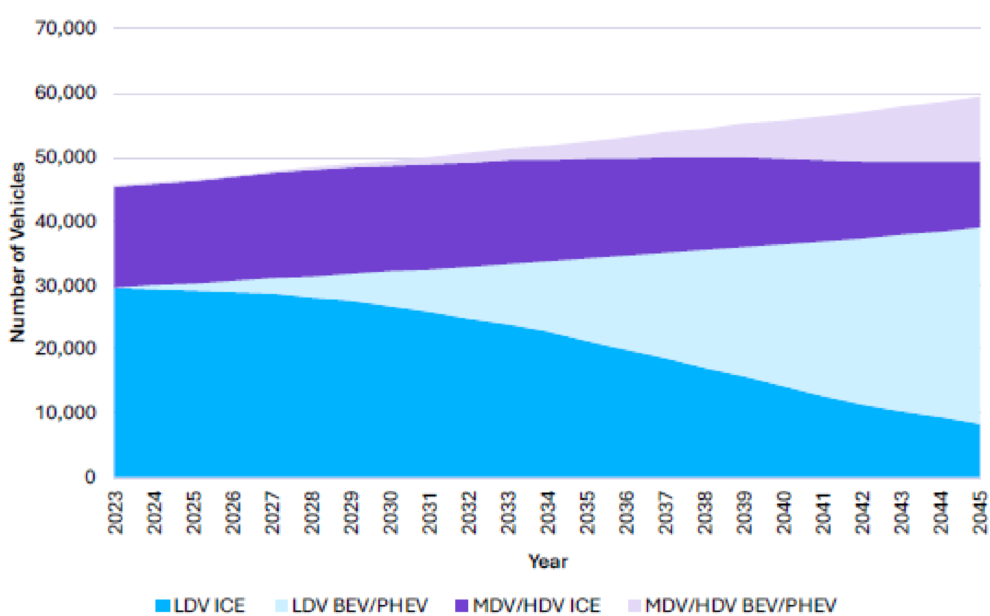
[5] See https://data.wa.gov/Transportation/Electric-Vehicle-Population-Size-History-By-County/3d5d-sdqb

as detected by Advanced Metering Infrastructure (AMI) data aggregation, which also provides for more accurate geo-spatial identification of EV charging loads.

In 2024, Avista completed a system-wide study of Distributed Energy Resources (DER) impacts, including EVs.[6] Baseline results include the following for the number of residential LDVs over time:



The study also showed MHDVs over time as follows:



[6] Distributed Energy Resources Potential Study, prepared for Avista by Applied Energy Group, Inc, Cadeo Group, and Verdant Associates. June 17, 2024 – available upon request.

Updated modeling for the number of chargers needed at each level is in development, including a review of various methodologies utilizing charging data of existing EVSE, methods and assumptions in the DER study, the Washington State Transportation Electrification Strategy, and others. These updates will be incorporated in the forthcoming update to the TE Plan next year. Forecasts and methodologies will change over time, but it is clear that a substantially higher number of chargers will be needed to achieve mass-adoption levels. The following summarizes the EVSE baseline load expected on Avista's system from residential, fleet, public and workplace EVSE by 2045:

Resource	Nameplate Capacity (MW)	Annual Load Impact (GWh)	Share of Nameplate Capacity in Named Community[14]	July Peak Load Impact[a] (MW)	December Peak Load Impact[a] (MW)	Ancillary Services Potential (MW)
Residential EVSE	1,544	853	38%	62	62	4
Fleet EVSE	692	841	67%	101	105	0
Public and Workplace EVSE	171	206	60%	33	33	0

Given the early stage of EV adoption in our service territory, modeling is currently in development for distribution, transmission, and generation resource acquisition needs specifically attributed to EV load growth, as well as distribution of costs to customers.

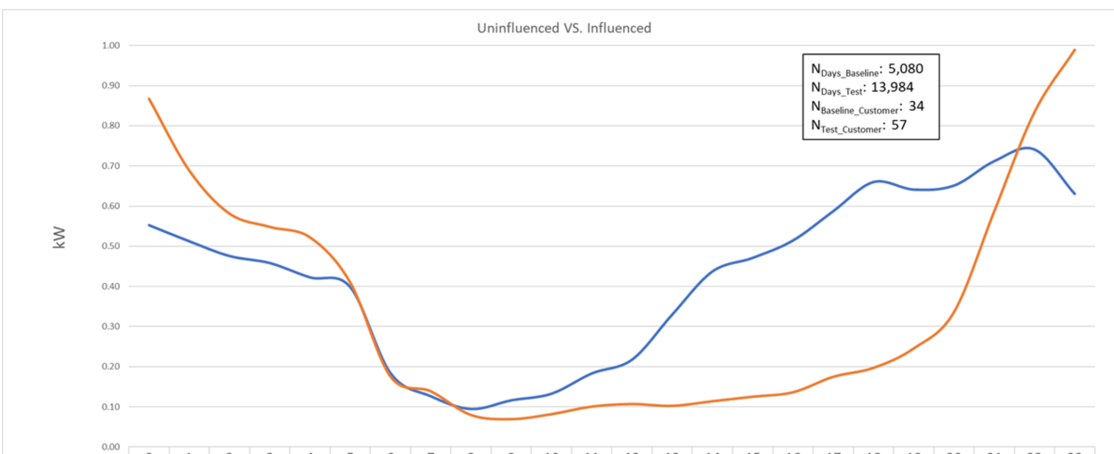
Forecasts and modeling of EV loads will continue to be refined and utilized as inputs to overall System Planning and Integrated Resource Planning efforts. As adoption levels increase and accelerate in the 2030s and 2040s, they will have more material impacts than the relatively small impacts expected in the next 5 to 10 years. In the near term, improved load profiles and modeling including expected shifts from TOU rates and managed charging programs, can help design and implement optimized service transformer change-out policies (right-sizing), as well as longer term feeder, substation, and possibly transmission infrastructure planning and upgrades over time. Of course, other expected loads and DERs in addition to EVs are major factors that must be incorporated as well.

However, special attention is warranted in certain commercial and industrial areas, where larger fleet electrification loads of MHD vehicles may be expected and that could impose a very material and immediate strain on local distribution grids. Avista intends to develop robust load forecasts in these areas through a bottom-up approach, engaging unique customers as well as employing more advanced and proven MHD load forecasting tools which are currently under development, as well as cutting-edge load management technologies.

The three primary barriers that prevent widespread EV adoption within our service territory include (1) competitive EV availability in terms of pricing, model variety and inventory, (2) reliable and adequate charging infrastructure, and (3) accurate customer knowledge and perception of the pros and cons of EVs. All of these barriers must be addressed simultaneously and cooperatively, by a broad spectrum of industry, utility, and government entities in the years ahead. Avista is committed to support TE which benefits all customers, doing its part to address these barriers and take advantage of an historic opportunity to better serve communities and customers, through charging infrastructure investments and customer programs, community support programs, load management and grid integration, fleet advisory services, and education and outreach efforts as detailed in the TE Plan.

6. **What data does your utility obtain from EV telematics software on private chargers in its service territory? How does your utility use this data?**
   a. **Provide the number of public and private chargers in your service territory broken down by L1, L2, and DCFC.**
   b. **Provide the number of customers/vehicles on a managed charging program in your service territory.**
   c. **What are the most common consumption rates for utility owned chargers within your service territory specified by charger type? (L1, L2, and DCFC)**
   d. **What are the most common consumption rates for all chargers within your service territory specified by type? (L1, L2, and DCFC)**
   e. **What is the average usage or utilization rates for utility owned chargers of each type? (L1, L2, and DCFC)**
   f. **What is the average usage or utilization rates for all chargers within your service territory by type? (L1, L2, and DCFC)**

Response: Beginning in 2023, Avista began piloting a residential Smart Charging program using EV telematics software and load management services. 111 residential customers are currently enrolled and initial results have been excellent, with high customer satisfaction and substantial peak load shifts of up to 95%, resulting in an aggregated reduction of 0.5 kW on-peak per EV as shown in the chart below.



	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Uninfluenced	0.55	0.51	0.48	0.46	0.42	0.40	0.18	0.13	0.09	0.12	0.13	0.18	0.22	0.33	0.44	0.47	0.51	0.59	0.66	0.64	0.65	0.71	0.74	0.63
Influenced	0.87	0.69	0.58	0.55	0.52	0.41	0.18	0.14	0.08	0.07	0.08	0.10	0.11	0.10	0.11	0.13	0.14	0.17	0.20	0.25	0.34	0.59	0.83	0.99

This data is utilized to develop a better understanding of various customer types and behaviors, as well as highly accurate load profiles of various vehicle types and use cases which may be used for System Planning and Integrated Resource Planning (IRP), and evaluation of load management program designs.

A total of 818 residential and 652 commercial L2 ports are subject to managed charging, with 36 commercial customers adopting commercial EV TOU rates.

Private L1 and L2 data is not comprehensively available, however AMI load disaggregation capabilities are improving which may lead to robust identification of L1 and L2 charging loads across our system in the future. Detailed charger information is available for download as well from the Alternative Fuels Data Center (AFDC), which primarily shows charging locations for public charging reported to the AFDC.[7] This database currently indicates 2,363 station locations with a total of 6,352 EV charging ports in the State of Washington. More charging information including maps and customer reviews may also be referenced at https://www.plugshare.com/.

As detailed in the 2023 TE Report, DCFC installations for Avista and 3rd party are summarized in the tables below.

	No. of DCFC Ports / Connection Type				
Station Owner	CHAdeMO	CCS	NACS	Total	% of Total
Avista	7	27	0	34	33%
Tesla	0	0	24	24	23%
Other	6	40	0	46	44%
Totals	13	67	24	104	100%

L2 consumption and utilization is summarized as follows:

	Number of ACL2 Ports	Annual Sessions per Port	Average kWh per Session	Annual kWh per Port
Public	43	123	7.0	861
Workplace	44	92	11.6	1,067
MUD	13	114	12.4	1,414
Fleet	8	72	11.3	814

7 See https://afdc.energy.gov/stations#/analyze?country=US&fuel=ELEC&ev_levels=all&access=public&access=private&region=US-WA

DCFC consumption and utilization is summarized as follows:

	In-Service Date	# DCFC ports per site	kW per port	2023 Charging Sessions	Average kWh per Session	Annual kWh
The HIVE	9/1/2022	2	90-180	895	27	24,223
Sprague	5/17/2022	2	90-180	489	24	11,955
Indian Trail Library	8/31/2022	2	90-180	335	31	10,366
NE Community Center	8/30/2022	2	90-180	262	27	6,767
Rosalia	7/12/2022	2	90-180	240	25	5,972
Kendall Yards	9/21/2023	2	90-180	239	35	8,322
Clarkston	9/29/2023	2	90-180	226	24	5,504
North Spokane Library	9/22/2023	2	90-180	132	26	3,413
Moran Prairie Library	9/22/2023	2	90-180	88	33	2,904
West Valley School Dist	9/27/2023	2	90-180	73	19	1,367
Liberty Lake Trailhead	9/25/2023	2	90-180	53	31	1,662
Chewelah SpokoFuel	12/11/2023	2	90-180	13	11	138
Liberty Lake STA	12/1/2023	2	90-180	11	14	151
Pilot DCFC Sites (5)	2017-2019	1	50	1,976	24	49,771

7. Some estimates note that approximately 80 percent of light-duty vehicle (LDV)6 charging is completed at home. If this charging is unmanaged, the periodic demand increases can quickly eliminate any available capacity at the distribution level. Managed charging mechanisms can help spread this demand to off-peak hours and mitigate the load stress of the system. What managed charging programs does your utility offer?

   a. For utilities with time-of-use rates (on-peak, off-peak, and etc.) please provide graphs displaying your on-peak hours, off-peak hours and any super off-peak hours. Please include whether participation in these programs is the default option or if customers must opt-in.

   b. Please provide the raw number (and percentage) of EV customers that participate in some form of static load control. (i.e., customers that allow for the utility to dictate when charging occurs by use of vehicle telematics or software on the smart charging device)

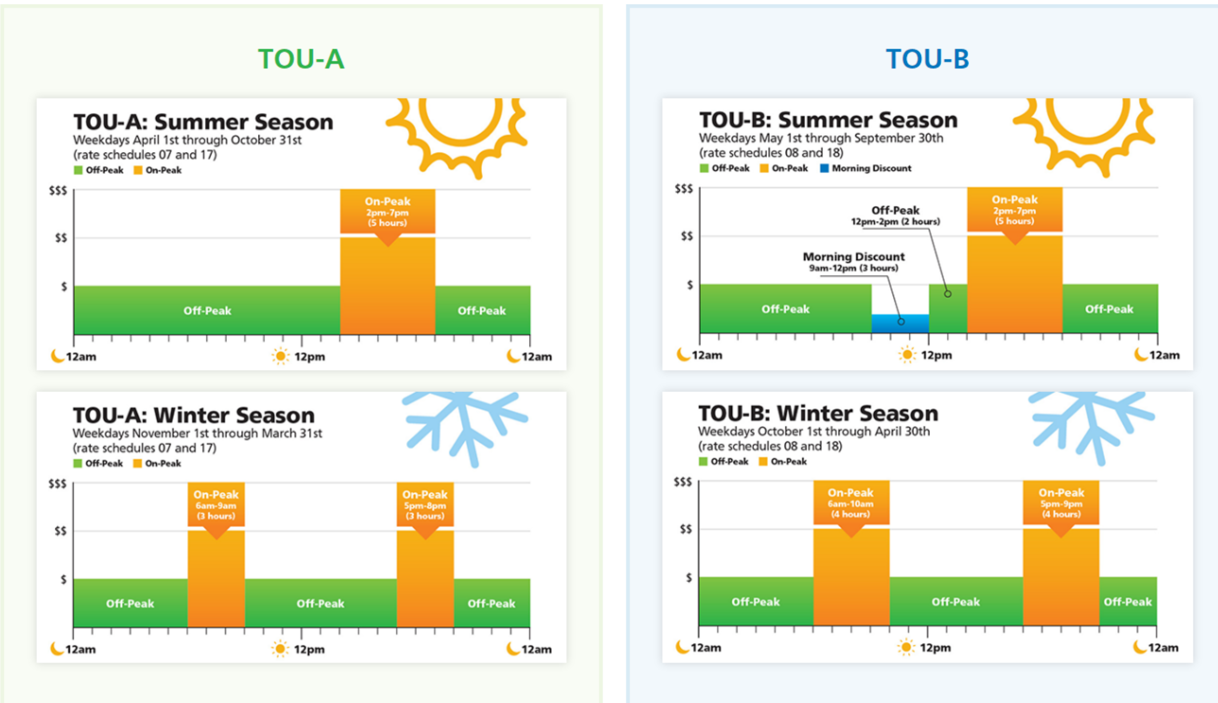
      i. For those customers using active load control, please detail the load reductions at the most granular level available as a result of these programs.

   c. Please provide the raw number (and percentage) of EV customers that participate in some form of dynamic load control. (i.e., customers that participate in time-of-use rates or other charging programs specifically for EV customers).

i. **For those customers using passive load control, detail the load reductions at the feeder level seen at the most granular level available as a result of these programs?**

Response: While system modeling indicates light-duty EVs will not impact the overall distribution system in a material way for many years, at some point in the 2030s (as they reach approximately 30% adoption levels, aside from some areas where clustering will occur) there will begin to be impacts and this must be mitigated and planned for.

TOU rates have proven effective in shifting loads by other utilities and following the recent enabling implementation of AMI, Avista is currently piloting its own whole-house residential and commercial TOU rates. The following shows the pilot TOU design, which is an optional, pilot rate program with two rate options for residential and small commercial customers: [8]



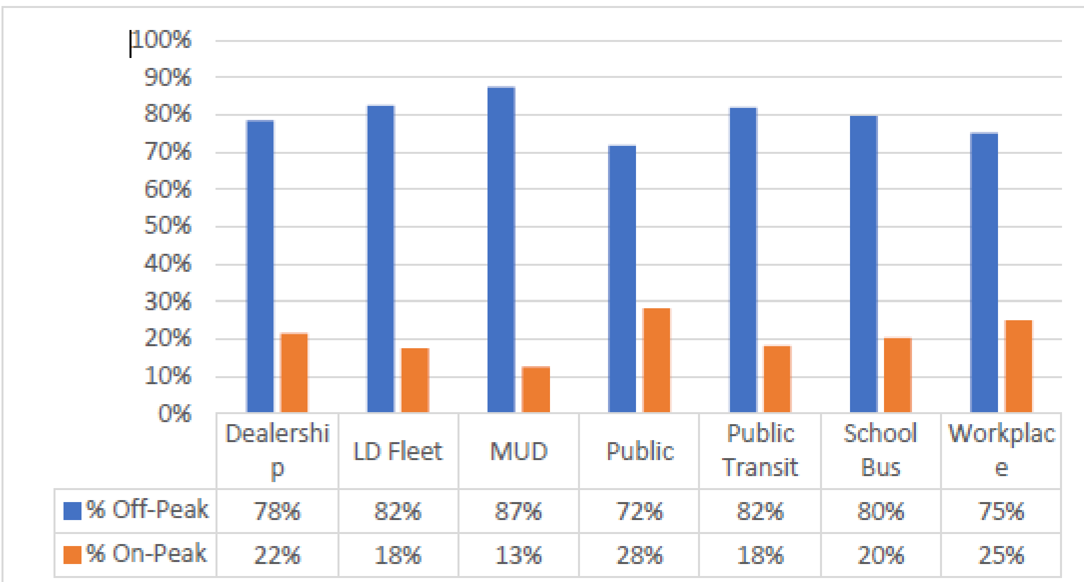
Avista has also implemented optional EV TOU rate schedules 013 and 023 for small and general-service commercial customers, summarized as follows:

[8] For more info, see https://www.myavista.com/energy-savings/green-options/time-of-use

	Schedule 013	Schedule 023
Basic Charge	$21	$600
On-Peak Energy Charge, per kWh	$0.22149	$0.17039
Off-Peak Energy Charge, per kWh	$0.08820	$0.06885

Period	Morning Peak	Afternoon-peak
Apr 1 – Oct 31	NA	3pm – 7pm
Nov 1 – Mar 31	7am – 10am	5pm – 8pm

As detailed in the Annual TE Reports, these rates have proven effective in shifting loads from larger charging sites, as well as supporting third-party investments in DCFC by mitigating demand charge billing. The chart below shows various examples of business customers implementing the TOU rate:



In addition to TOU rates, EV load management programs may eventually prove themselves as another viable and scalable method to achieve even greater load shifts. As noted in the previous response, Avista has piloted a residential Smart Charging program using EV telematics software and load management services. The aggregated reduction of 0.5 kW on-peak per EV results in a grid benefit from avoided costs for system generation resource capacity and distribution system upgrades of $103 per year, per EV in 2025, rising to $142 per EV in 2030. Against these benefits are costs including customer incentives, program administration, software and service fees, and outreach promotions estimated at $400/EV. This results in net negative benefits-costs of -$258 per EV, and thus is not scalable as a cost-effective program design. However, an alternative program design might be feasible, for example reducing customer incentives and instead pairing the program offering with a TOU rate. This would provide EV customers the benefit of conveniently optimizing charging to reduce peak loads and realize monthly bill savings, as well as greater battery longevity, and perhaps would be attractive to a large portion of customers. Use of this platform or something similar for residential and in the future commercial EVs as well, could also provide the ability to shift loads not just within a given day, but over several days for many EVs – realizing substantially higher grid benefits in cases of extended, multi-day and severe grid constraints which may occur during extreme cold or hot weather events, forest fire mitigations, etc. Avista intends to further experiment with the current Smart Charging pilot with active controls and launch the program to all eligible electric customers in 2025, with a scalable program design and reliable funding source to drive program growth for many years and achieve strategic TE objectives as outlined in Avista's TE Plan.

Avista maintains 818 L2 residential ports, 652 commercial L2 ports and 37 DCFC ports. All EVSE installations are subject to ongoing load management programs including legacy EV programming programs, AMI data load disaggregation and profiling, and more advanced vehicle-grid integration (VGI) platforms which optimize fleet and DCFC charging, limiting charging loads to local and system grid constraints and/or needs. Supplemental and backup EV battery power exported to homes, critical loads, commercial facilities and to the grid itself may eventually become a reliable and cost-effective source of power as well.

EV load management programs and VGI capabilities are still developing in the industry and should be viewed as important capabilities that must be developed and scaled in the future, to supplement proven load shifts that may be expected from the deployment of TOU rates in various forms. Avista will continue to develop and prove-out load management platforms and programs as this will undoubtedly become an integral and substantial part of a more shared and optimized energy future that benefits all customers.

% of Commercial EVSE in EV TOU rates: 16% L2, 89% DCFC
% of EV Customers Participating in Static Load Control: 16% (818 out of 5,158)
% of EV Customers Participating in Dynamic Load Control: 0% (developing pilots)

8. **EV infrastructure are common targets for theft and vandalism. What studies or programs are you aware of that address issues of vandalism and/or theft of EV supply equipment?**
    a. **Does your utility track information and expenses related to instances of damage, theft, or vandalism of EVSE?**
    b. **If so, please detail the costs your utility has spent for 2022 and 2023 to repair or replace vandalized EVSE infrastructure in your service territory?**

Response: To date, occurrences of theft and vandalism reflect a small percentage of problems for EVSE owned and operated by Avista. Comprehensive research of studies and programs that address the issues of vandalism or theft of EVSE has not been completed, as it has not been a major issue thus far in Avista's service territory. However, pole-mounted public L2 appear noteworthy in that they incorporate cord management solutions that reduce the risk of theft and vandalism. While no pole-mounted EVSE installs have been made in Avista's service territory to date, this is an area of interest and will be monitored for cost-effectiveness results and lessons learned as demonstrated elsewhere, and possibly implemented at some point in the future.

Siting of EVSE in areas of higher criminal activity poses additional risks and should be evaluated and/or addressed at each location, prior to making initial investments in charging infrastructure or ongoing repair of EVSE in the event of repeated damage. Prior to installation of EVSE, it is prudent to discuss with site hosts and in some cases local municipal authorities to reasonably ascertain if criminal activity in the area poses an unacceptably high risk of EVSE damage. As a result of this process, a small number of sites have been de-selected by Avista and its site host partners, and this may at least partly reflect the relatively low amount of theft and vandalism experienced thus far in our service territory.

Avista has begun to track and categorize issues related to damage, theft, or vandalism of EVSE and is summarized as follows:

2021
(3) L2 cable thefts, plus additional station damage on the last incident. All incidents were for one station and site. The station was replaced and the site host enclosed the new station to prevent additional vandalism. These expenses totaled less than $10,000, out of a total of $25,836 EVSE maintenance & repair expenses for the year.

2022
(1) DCFC cable theft, (1) DCFC cable damage (likely unintentional), (2) L2 cable theft/vandalism, and (3) L2 miscellaneous issues such as port holster damage, EVSE defacement, and theft of signage. These expenses totaled less than $10,000 out of a total of $53,373 EVSE maintenance & repair expenses for the year.

2023
(1) DCFC site with power infrastructure vandalism, (2) L2 cable thefts, and (3) miscellaneous issues. These expenses totaled less than $6,000 out of a total of $54,968 EVSE maintenance expenses for the year.

2024
(1) DCFC vandalism, which involved breaking open a station, theft of a cable, and theft/vandalism to additional internal components. (4) L2 theft/vandalism incidents have also occurred year to date. The expenses totaled less than $16,000, out of $55,923 EVSE maintenance & repair expenses recorded through August, 2024.

In many instances, Avista has been able to keep costs lower for theft/vandalism maintenance by utilizing spare parts from decommissioned stations. Cord sets are the most common part to salvage from decommissioned stations and redeploy at vandalized sites.

9. **What is your utility's process to repair inoperable EVSE equipment? Please detail the process and timelines from the moment the utility is notified to re-energization of the EVSE.**
    a. **Does your utility track and maintain records on the operability of EVSE equipment in your service territory? If so, does your utility track solely public or utility-owned EVSE or does it track 3rd party owned as well?**
    b. **Does your utility contract with a 3rd party provider to fix and/or repair EVSE? If so, please provide the names of each third-party contractor.**

c. **Please provide the names of each 3rd party provider contracted with your utility as well as the cumulative costs your utility has incurred for these services for 2022 and 2023.**

Response: The process to repair inoperable EVSE equipment varies considerably, based on a number of factors including the issue, notification source, equipment type, and available information. The first step is to understand if the EVSE is an L2 or DCFC type and whether it is networked or non-networked.

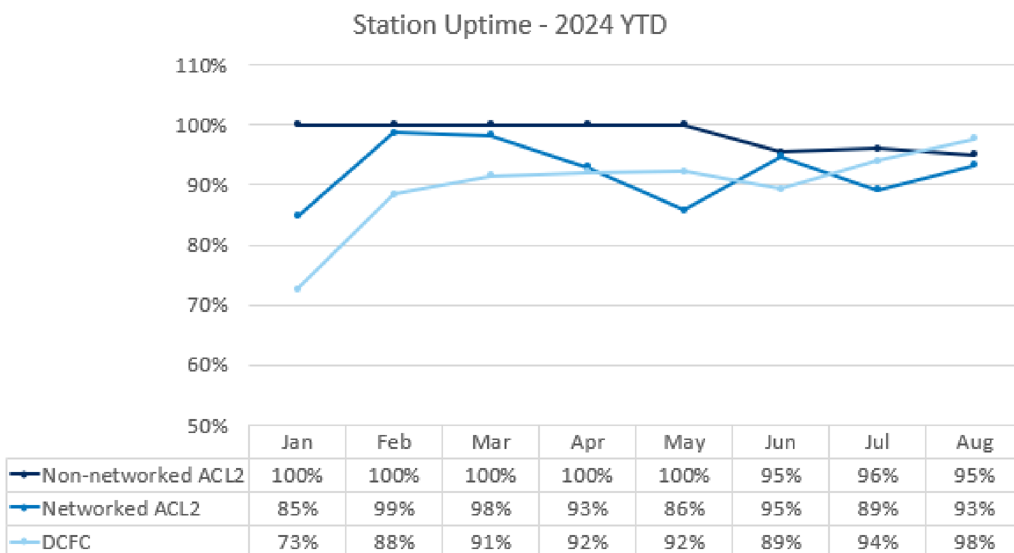
Non-networked L2 EVSE have very high reliability and low occurrences of issues. Power cycling the units at the breaker resolves most issues. Avista requests the EVSE to be power cycled by the site host or a third-party electrical contractor if necessary. If power cycling does not resolve the issue, or the issue reported clearly indicates additional work is needed beyond a power cycle, such as vandalism or visible hardware damage, a third-party electrical contractor is deployed to repair or replace the unit as needed, working with the EVSE manufacturer to troubleshoot if applicable.

For networked EVSE, Avista engages with the network provider (a.k.a. Electric Vehicle Service Provider, or EVSP) to review EVSE communication logs, past session history, and details available from the EVSE to attempt to gather more insights into the problem and potential cause. The EVSP often opens tickets with the EVSE manufacturer for additional investigation and troubleshooting into EVSE logs not available to the EVSP or EVSE owner. In many instances, the site host, a third-party electrical contractor, or Avista are requested to power cycle the EVSE. The EVSP or the EVSE manufacturer may also request a local on-site test of the EVSE and provide additional information on the EVSE's performance. Avista or a third-party electrical contractor will perform this work and report back to the EVSP. Once the issue and cause has been clearly identified, if the EVSE is under warranty, the EVSP and EVSE manufacturer work together to procure necessary parts and schedule and perform the repair. If the EVSE is no longer under warranty, a quote is provided to Avista for parts and/or labor for the repair. In most instances for non-warranty work, Avista purchases parts only and requests a written statement of work from the EVSP, outlining the steps needed to facilitate the repair. Avista then deploys a local third-party electrical contractor to complete the work.

Timelines for repair of inoperable EVSE equipment vary by a number of factors as well. Non-networked EVSE units can be repaired quickly. Power cycling is a quick and easy solution in most instances. If power cycling does not resolve the issue, an electrical contractor can be deployed to repair or replace the EVSE. Avista maintains a spares inventory of parts and equipment available to the electrical contractor which allows the contractor to quickly repair or replace the EVSE during the initial site visit if repair is not possible. Non-networked issues can be resolved in a few hours to a few weeks, depending on the schedule availability of the third-party contractor and if the EVSE is in town or requires travel.

Networked EVSE issues can also be resolved within a day if power cycling resolves the issues. Resolution can also take weeks or months to resolve, depending on the availability and response times of the EVSP and EVSE manufacturer, schedule availability of EVSP, EVSE manufacturer, or local resources for onsite troubleshooting and repair, travel required to the site, and lead times for equipment parts not held in spares inventory.

Avista tracks and maintains records on known issues or reported problems that are related to the operability of Avista owned EVSE equipment and provides detailed reporting in its Annual Transportation Electrification (TE) Report. Avista is not always notified of issues and information on detailed problem resolution is often not communicated back to Avista as well, which requires additional work to investigate and record. Avista does not track or maintain records on equipment owned by third parties. The most important performance metric is EVSE uptime, or the % of time that the EVSE is in good operation able to provide a charge for the EV user. A summary of uptime by type for Avista owned EVSE is as follows:



For EVSEs under warranty, issues are coordinated with the EVSP and EVSE manufacturer, sometimes involving local third-party electrical technicians. For problems not covered under warranty, Avista primarily utilizes a local third-party electrical contractor for EVSE repair services, including North West Electric Solutions, LLC, and Colvico, Inc.

As provided in Avista's 2021, 2022 and 2023 Annual TE Reports, total Operations & Maintenance expenses by EVSE type are listed below. These figures reflect all costs associated with EVSE inspections, maintenance and repair including parts and materials, contractor labor and Avista administrative costs.

Equipment	2021	2022	2023
Residential L2	$1,215	$1,556	$6,358
Commercial L2	$5,529	$24,932	$25,767
DCFC	$19,092	$26,885	$22,843

If you have any questions regarding this filing, please contact Rendall Farley at rendall.farley@avistacorp.com or (509) 495-2823.

Sincerely,

/s/ *Shawn Bonfield*

Shawn Bonfield
Sr. Manager of Regulatory Policy & Strategy
shawn.bonfield@avistacorp.com
(509) 495-2782